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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,585	01/24/2002	Duwayne R. Anderson	7249 US	4141

30078 7590 03/05/2004  
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EXAMINER

VALENTIN, JUAN D

ART UNIT PAPER NUMBER

2877

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/058,585	Applicant(s) ANDERSON, DUWAYNE R.	
	Examiner Juan D Valentin II	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 11 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. In order to avoid abandonment, the drawing informalities noted in Paper No. 3, mailed on 05/06/2003 and the reminder mailed in action dated 10/15/2003 , must now be corrected.

Correction can only be effected in the manner set forth in the above noted paper.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 & 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al. (USPN '050, hereinafter Jiang) in view of He et al. (USPAPN 2001/0048070, hereinafter He).

### **Claim 1**

Jiang discloses in conjunction with Fig. 1, a fiber pigtailed assembly (101) (col. 3, lines 46-39) for coupling light from an optical fiber (106) to an optical detector (104) comprising means for mounting the optical fiber adjacent to the optical detector (101). Jiang discloses the optical fiber having a beveled end (107) and having a diameter less than the area of a detector surface of the optical detector (col. 2, lines 51-58) so that the light from the beveled end impinges on the detector surface. Jiang discloses the detector surface being tilted (col. 4, lines 17-33).

Jiang substantially teaches the claimed invention except that it fails to show a detector rotated with respect to the beveled end to produce essentially zero polarization-dependent responsivity and low back reflection. He shows that it is known to provide rotation of the ferrule containing a fiber [0083] for a polarization independent photo detector. It would have been obvious to someone of ordinary skill in the art to combine the device of Jiang with the rotation alignment procedure of He for the purposes of providing polarization alignment between a fiber and optical component in order to reduce incidence of misalignment between the two (col. 1, lines 47-52).

The combination of Jiang in view of He clearly anticipates the claimed invention, this is evident as pointed out above in paragraph [0083] of He which states “The correct compensation (PDR) then would be achieved by rotating one or other of the fiber 112 and the detector 26 relative to the other...”. To further clarify the record, in paragraphs [0032-0035] further reiterates this point with regards to Fig. 3 of He.

### Claim 3

Jiang in view of He further disclose in conjunction with Fig. 1 (Jiang), a fiber pigtailed assembly wherein the mounting means comprises a housing (101) having a fiber holding portion (101) and a detector-holding portion (103) coupled together by a connecting portion (102) to form a gap there between. Jiang in view of He disclose the optical fiber being mounted in the fiber holding portion (101) so that the beveled end (107) extends into the gap and the optical defector (104) being mounted in the detector holding portion (103) so that the detector surface is adjacent, tilted, and rotated with respect to the beveled end.

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Applicant will be appreciated that the reference of He teaches the rotation of the ferrule containing fiber with respect to the end of the fiber. Therefore, the reference of Jiang in view of He reads on the claimed limitation.

In Figs. 1 & 4 of Jiang it can be seen that a fiber holding portion 101 and a detector holding portion 103 coupled together by a connecting portion 102 (spacer member), also with a gap there between.

3. Claims 2 & 4-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang in view of He and further in view of Minamino et al. (USPN '666 B1).

**Claim 2 & 4**

Jiang in view of He substantially teaches the claimed invention except that it fails to show further comprising means for adjusting a tilt angle of the detector surface with respect to the beveled end. Minamino shows that it is known to provide tilt-adjusting means (col. 12, line 52-col. 13, line 15) for a light-receiving module. It would have been obvious to someone of ordinary skill in the art to combine the device of Jiang in view of He with the tilt adjustment means of Minamino for the purposes of suppressing harmful influences due to light reflection (col. 13, lines 7-15).

The tilt angle as claimed by Applicant is equivalent to the “properly setting the angle between the connection end face 9 of the ferrule 2 and the light receiving/emitting surface of the light emitting/receiving element such as the face light emitting laser array 8, harmful influences due to light reflection occurring between these surfaces are suppressed” (col. 13, lines 7-12). Both are referring to the angle between the fiber (ferrule) and the detector.

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**Claim 5**

Jiang in view of He substantially teaches the claimed invention except that it fails to show wherein the adjusting means comprises the connection portion being flexible and coupled to the housing for angularly varying the gap to adjust the tilt angle by rotating about a point in the connection portion. Minamino shows that it is known to provide a connection portion being flexible and coupled to the housing for angularly varying the gap (col. 11, line 1-12) for a light-receiving module. It would have been obvious to someone of ordinary skill in the art to combine the device of Jiang in view of He with the connection portion being flexible and coupled to the housing for angularly variation of Minamino for the purposes of precisely setting the angle between the detector and ferrule.

It is the position of the Office that the inclination means of Minamino as shown above is flexible in order to be “adjusted to a set angle determined in advance with extreme ease” (col. 11, lines 10-11). Further, the inclination adjusting means reads on the claimed “means coupled to the housing for angularly varying the gap to adjust the tilt angle by rotating about a point in the connection portion” (see Figs. 5 & 6).

**Claim 6**

It is the position of the Office that even though the reference of Jiang in view of He and further in view of Minamino does not specifically disclose wherein the angularly varying means comprises a screw threaded through one of the fiber and detector holding portions, it does outline the importance of adjusting the angle between the detector and ferrule in order to reduce harmful influences due to light reflections. In light of the applicants disclosure, there is no critically distinguishing angle variation through the use of a screw feature in the applicants disclosure that

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exemplifies novelty over prior art disclosure. Therefore, producing the same results as the applicant's limitation, therefore the reference of Jiang in view of He and further in view of Minamino reads on applicants claimed limitation.

Applicant has not disclosed any significant result obtained using a screw to adjust the tilt angle. Applicant has disclosed that adjusting the tilt angle helps reduce losses associated with back reflections, Minamino discloses an tilt adjustment means to change the angle between a detector and ferrule helps reduce losses associated with back reflections, therefore Applicants limitation has been met and the reference of Jiang in view of He and further in view of Minamino reads on the claimed limitation.

The rejection to claim 6 is maintained.

4. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang in view of He and further in view of Schmidt (USPN '338 B1).

**Claim 7**

Jiang in view of He substantially teaches the claimed invention except that it fails to show a fiber pigtailed assembly further comprising means for coupling an opposing end of the optical fiber to an external optical fiber with low back reflection and minimum polarization dependent responsivity. Schmidt shows that it is known to provide means for coupling an opposing end of the optical fiber to an external optical fiber with low back reflection and minimum polarization dependent responsivity (col. 4, lines 45-57) for a measuring device with an optical. It would have been obvious to someone of ordinary skill in the art to combine the

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device of Jiang in view of He with the coupling means of Schmidt for the purposes of providing substantially no polarization dependent loss.

It is apparent by Applicants Figs. 7 & 8 that the beveled fiber ends are as well parallel as those of Schmidt. Applicant has not provided support within the specification and has not claimed where the two beveled surfaces (external optical fiber & opposing optical fiber) that are rotated with respect to each other.

*Allowable Subject Matter*

5. Claims 8 & 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 10-11 are allowed over prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, the prior art fails to disclose or make obvious an input ferrule, an intermediate ferrule, and an output ferrule each containing respective optical fibers and in combination with the other recited limitations of claim 8. Claim 9 is objected by virtue of dependency on the objected claim 8.

Regarding claim 10, the prior art fails to disclose or make obvious an input ferrule, an intermediate ferrule, and an output ferrule each containing respective optical fibers and in combination with the other recited limitations of claim 10. Claim 11 is allowed by virtue of dependency on the allowed claim 10.

Any comments considered necessary by applicant must be submitted no later than the



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payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (571) 272-2433.

The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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February 27, 2004



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